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PROVISIONAL INTELLIGENCE REPORT

GOALS AND ATTAINMENTS OF EDUCATION IN THE USSR

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GOALS AND ATTAINMENTS OF EDUCATION IN THE USSR

Summary

One of the major goals of the Communist regime in the USSR has been to develop educational facilities and use them to promote totalitarian plans. The major objectives which permeate all types and levels of Soviet instruction are reliable political indoctrination and practical vocational training. These ends are served by a high degree of central control of educational policy and subject matter.

There was no public education in Czarist Russia, and private and church schools reached only a limited segment of the population. In spite of these meager beginnings, disruptions by war and purges, an expanding school population, and low national income, substantial progress in attaining Communist goals has been made in the past 30 years.

The objectives of the graded schools in the USSR are much the same as in the US, with added emphasis on indoctrination and preindustrial training. As long as education was compulsory only through the fourth grade, the great majority of children did not progress beyond that point. At present there is a drive to achieve universal compulsory seven-grade education. Its apparent success will expand the potential intake of secondary schools, vocational high schools, and, eventually, colleges. The enrollment in regular high schools is still small, and only about 1 percent of the total enrollment in the first 10 grades is in the graduating class. About the same number, however, are graduated from vocational high schools, and some attend secondary night schools. The course of study is more condensed than in the US. The largest proportion of the time is devoted to those subjects where factual material and political indoctrination can be combined. Almost as much attention is given to subjects which lay the foundation for vocational training. About 10 percent is allotted to games and sports, with a strong premilitary emphasis. In spite of the development of elaborate teacher-training facilities, the supply of trained teachers has not kept pace with the expansion of schools. Additional handicaps are the excessive retardation of pupils and shortages in buildings, equipment, and textbooks. In summary, the graded schools are rapidly approaching the goal of universal 7-year compulsory attendance; high school enrollment is still small; and substantial progress is being made in the elimination of the shortage of teachers.

Labor reserve schools are organized to train workers for the middle ranks of industry. Completion of the fourth grade is required for entry. Although there is some voluntary enrollment, compulsion is often resorted to. Graduates must work 4 years at an assigned job. The system provides a means of channeling

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rural youth into industry and filling the requirements in pioneer areas and undesirable jobs. Enrollments reached 1 million in 1948 but have subsequently declined to less than half that number. It is not clear whether this shrinkage represents the beginning of a permanent trend away from this type of training or a temporary failure to fulfill plans. Over the past 5 years the labor reserve schools have contributed 3.5 million semiskilled workers to the segments of industry where they were most critically needed.

Vocational high schools (technicums) accept pupils who have completed the seventh grade and train them as specialists. They are given a high school education with special training for one of a wide variety of occupations. Technicum enrollment has steadily increased to a level of over 1.3 million, with an annual graduation of about 320,000. The relative freedom of these institutions from public criticism indicates that they are performing their function satisfactorily.

Higher education is offered in 34 universities and over 800 specialized institutes.

The usual departments are included in the universities, but institutes for the most part train for one narrow specialty. Resident students have increased 50 percent in the 5 years preceding 1951. There are now 830,000 resident and 350,000 correspondence students, with annual graduations at the rate of 150,000 regular and 10,000 correspondence degrees. At present nearly half the graduates are trained for teaching, about 23 percent for engineering, and the balance for miscellaneous professions. Only about 4 percent of the degrees in the USSR are graduate degrees as compared with 13 percent in the US. Graduate work in science is integrated with the program of the Academy of Sciences, which maintains some excellent laboratories but concentrates on applied research.

Quantitatively, institutions of higher education in the USSR have exceeded the goal of training expert personnel as rapidly as industry expanded, leaving some leeway for improved staffing. Qualitatively, Soviet graduates are hampered by the narrow range of subjects taught in the specialized institutes, the rigid compartmentalization of research, and the fact that only a small proportion of them have postgraduate training. The high concentration of the economy of the USSR on the critical products of comparatively simple designs, however, make it possible to operate industry successfully with fewer engineers and a narrower range of skills. If judgment as to the training of engineers is based upon the workmanship in the products which they subsequently turn out, it is to be concluded that scientific and technical manpower, at least in the critical industries, is of sufficient volume and quality to produce the goods which are considered essential for the operation of the Soviet economy at present levels.

Political training for the officials of the Party and government at all levels is carried on in a special system of schools.

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I. General Goals and Objectives.

A major concern of the Communist regime in the USSR has been improvement in the level of education, wide extension of facilities, and adaptation of schools to totalitarian objectives. The Constitution states these objectives as follows:

"The citizens of the USSR have a right to education. This right is assured by compulsory elementary education, by free tuition, by a system of scholarships granted to the overwhelming majority of university students, by education in the mother tongue, by the organization of free vocational education in the factories, government-operated farms, and tractor stations and collective farms." 1/

As a practical matter, some of these constitutional "assurances" have not completely materialized. Until recently, education was not compulsory beyond the fourth grade. Tuition is not free beyond the seventh grade, and higher education scholarships are limited to the most outstanding students.

Shut off as they are from outside contacts and ideas, the present generation of Russians is especially dependent upon the schools to shape its character and thought. Communist leaders have been prompt to realize the power of controlled education to capture the minds of youth and alert to grasp this opportunity. From Marx on, dialecticians have emphasized the importance of education, and Lenin advocated that the school should become a weapon of the proletarian dictatorship. 2/

The principal Soviet objectives in education are twofold. First is the indoctrination of a docile population -- which is frequently referred to in the textbooks on pedagogy as "education in communist morality." It is subdivided into (1) love of the Motherland and glorification of its leaders, with its corollary of hatred for the "imperialist" nations; (2) humanism, which when examined closely becomes cooperation with other peoples who follow the Communist line and hence is not considered inconsistent with hatred of enemies; (3) comradeship, which in practice means adaptation to the collective life; (4) order and discipline in both industry and life; and (5) courage and strength in the support of Communist causes. 3/ The second objective is the training of an expanding labor force possessing all skills necessary to operate the economy and the armed forces. The drive for industrialization and the recent unwillingness to use foreign experts, except when necessary, have made the need for vocational education acute. Next to political indoctrination, vocational training is the dominant determinant of educational practice. This objective results not only in the development of various types of technical schools but also in emphasis on technical materials in all types of schools. Even in the graded schools, "polytechnism," or the effort to impart

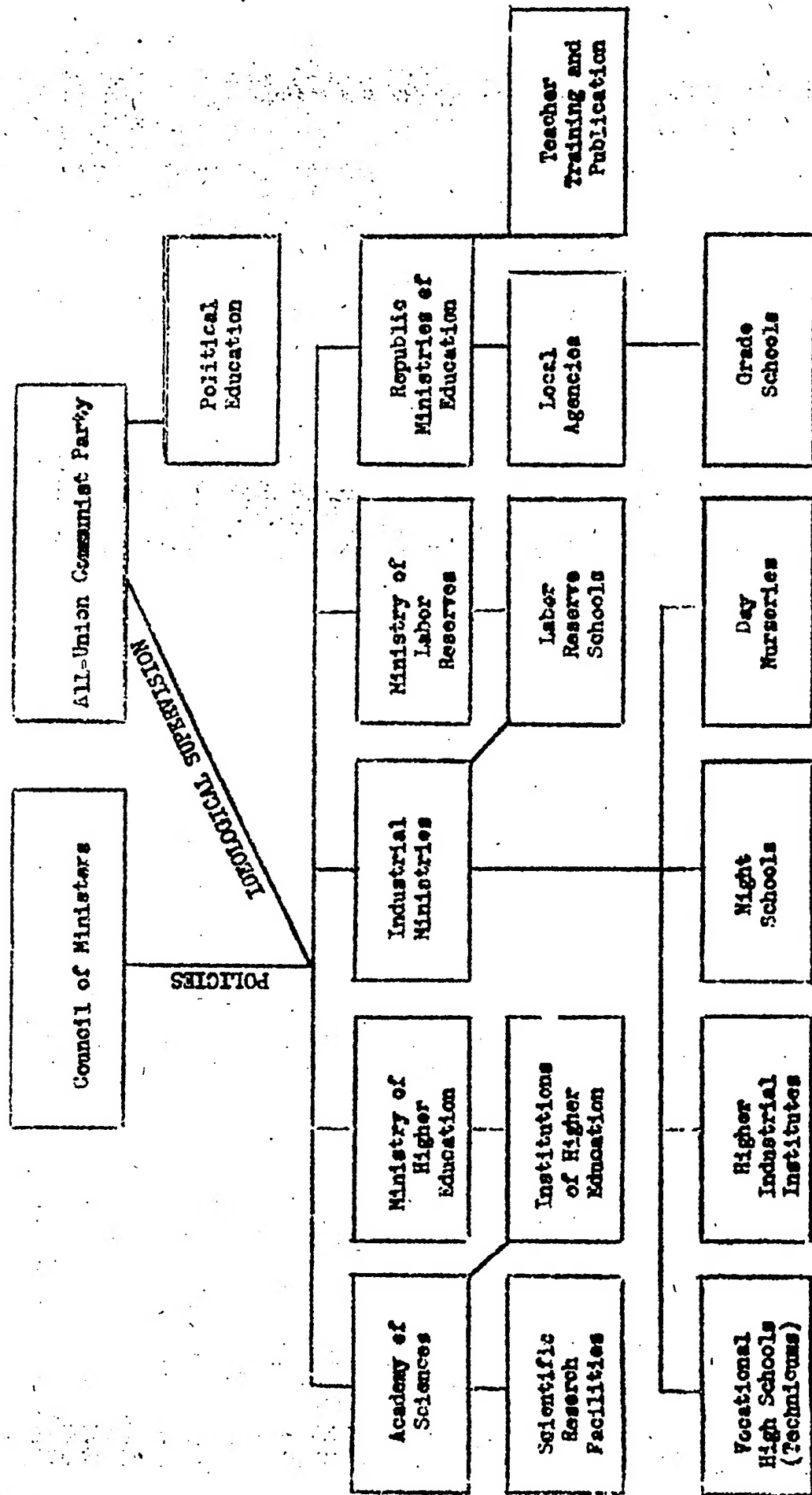
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Figure 3

Administrative Organization and Control of Education in the USSR



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the knowledge necessary to the mastery of the environment and the understanding of the basic principles of industry, is pervasive.

These two objectives permeate the whole Soviet educational system from kindergarten to graduate school. They are the criteria by which the suitability of textbooks and course outlines is judged and the relative weights of subject matter courses are determined. They are the yardsticks for appraising teaching methods and efficiency of teachers. The success or failure of educational effort in the USSR from the Soviet point of view is to be judged in terms of success in meeting these objectives rather than by standards which would be applied to education in a democracy.

Adherence to these goals is enforced by highly centralized control of educational policy and subject matter. All education is government-controlled. Although the operation of educational facilities is decentralized to the republics and industrial ministries, policy and content are determined by the council of ministers and are supervised by the Party organs at all levels. (See Fig. 1.)

II. General Measures of Progress.

1. Low Prerevolutionary Level.

Czarist Russia was 65 percent illiterate. There was no public education. School buildings were few and were largely concentrated in cities. As late as 1926, only about two-thirds of the inhabitants of the Central Industrial region could read and illiteracy was higher among the non-Russian groups, reaching 90 percent and above in Uzbekistan and Tadzhikistan. // Classical courses predominated. There were not many more than 200,000 teachers in the whole country, and many of these were politically "unreliable." Equipment was lacking, and books were inadequate.

2. Handicaps to Progress.

During the period 1926-50, when the school system was being expanded, the school population (7 to 17 years of age) increased by 11 million, 5/ or 33 percent, and at the same time the government conducted an intensive campaign against adult illiteracy, enrolling millions of adults in special classes. Progress which was beginning to be marked by 1940 was interrupted by the war, and, in occupied areas, extensive replacement of war casualties and reconstruction were necessary.

3. Educational Finance.

The present population of school age of the USSR is 50 percent larger than that of the US, but Soviet resources to support education are only about one-fourth those of the US. 6/

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The total educational budget of the USSR for 1951 was announced as 59 billion rubles. Soviet propaganda constantly comments on this large amount as a higher percentage of the national income than is used for these purposes in the US.* Only about 58 percent of this total, however, is spent for operation and construction of schools (the only items included as educational expenditure in US statistics). The other 42 percent is for printing of books, support of propaganda organizations, and subsidies for art, radio, and drama, items that are excluded from educational statistics in the US. On this basis the USSR spends an equivalent of about \$3.4 to \$4.2 billion for construction and operation of schools as compared with an expenditure of \$8.8 billion in the US.** This is an expenditure of 4.5 percent of the gross national product of the USSR as compared with 3.1 percent in the US, indicating a slightly greater financial effort for the USSR to produce a much smaller total expenditure.

With the smaller income and larger school population, the USSR expenditure per pupil enrolled is only \$92 to \$115 per year as compared with \$300 in the US. If the USSR succeeds in securing the enrollment of a percentage of its educable population comparable to the US, it will be at the expense of lower outlay per pupil unless Soviet financial effort is greatly increased.

4. Range of Education.

Soviet education has a variety of objectives, and it has been necessary to develop a variety of types of schools to meet them.

* Soviet propaganda often contrasts total expenditure in the USSR, which is all included in the national budget, with Federal expenditure in the US, which excludes over 95 percent of the educational outlay carried by state and local budgets and private organizations.

** US expenditures from the US Office of Education; for items in the USSR budget, see 7/. A total of 59 billion rubles was announced for Soviet educational expenditures in 1950. 8/ The percentage for operation and construction was estimated on basis of the RSFSR budget. The dollar value of the ruble varies with the type of expenditure. The rate of 4 rubles per dollar may be approximate in the case of military purchases, which are not subject to the turnover tax and enjoy favored price policies. The rate of 25 rubles per dollar has been estimated with respect to the purchases of the general public, who bear the turnover tax. In estimating the gross national product, a range of from 8 to 10 rubles per dollar was used. Accordingly, educational expenditures were converted at the same ratio. As long as the same ratio for income and expenditures is used, the relationship remains constant no matter which dollar-ruble rate is used. Change in the ratio of rubles to dollars would, however, vary the relationship in the per-pupil expenditure in the two countries.

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5. Comparisons with the US.

Under these circumstances it is not remarkable that the pressing educational ambitions of the Soviets have been only partially fulfilled. If, however, their success is not judged entirely by the present level, but is measured as progress from an extremely low prerevolutionary beginning, the achievements are more impressive.

Some of the indicators of this progress are the expanding of enrollments in grade schools from about 8 million to 34.5 million; enrolling 1.3 million in special vocational schools and over 1.2 million in universities (see Table 2, p. 8, below); expanding the teaching force from about 200,000 to 1,600,000; developing a system of kindergartens and day nurseries; promoting on-the-job training in factories and widespread adult education; housing this large establishment; and preparing a complete set of textbooks guaranteed to follow the orthodox party line. An expansion of this scope carried out in a relatively short period naturally has hampered the quality of the educational offering. This qualitative aspect of the program is most difficult to measure, since direct evidence is lacking, but it is the most important field for future analysis.

If Soviet educators can in the next 20 years duplicate the progress of the past 20, the USSR will attain Western European levels in equipment and enrollment.

The extent to which this progress has brought education in the USSR up to US levels can be only generally appraised because of lack of comparable statistics and absence of qualitative studies. The following estimated relationships, however, with respect to a number of indices, give some approximate comparisons of present levels*:

* See Table 1, p. 7.

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Table 1
Educational Indices, US and USSR
1950-51

<u>Index</u>	<u>US</u>	<u>USSR</u>
Population of School Age (Thousands) a/	29,400	44,600
Elementary and Secondary Pupils per 100 of School Age	93	80
Elementary and Secondary Pupils per Teacher	27	28
High School Students per 100 Elementary and Secondary Pupils b/	24	11
High School Graduates per 100 Elementary and Secondary Pupils b/	4.6	1.8
Higher Education Enrollment (Thousands)	2,300	1,350
Bachelors and First Professional Degrees (Thousands) c/	300	150
Secondary Vocational Enrollment (Thousands) d/	3,000	1,380
Expenditure for Operation and Construction of Schools as Percentage of Public Expenditure e/	10.1	7.4

a. For US population 6 to 17 years of age, see 9/; for USSR population 7 to 16 years of age, see Table 2, p. 8, below.

b. US excludes summer and correspondence courses. USSR includes correspondence and 2.5 million regular and 1.4 million vocational secondary enrollment and about 325,000 graduates from each type of institution.

c. US figure estimated by the US Office of Education on the basis that the 433,000 graduates in 1950 included a high percentage of veterans and that when these are eliminated, graduations will be about 300,000 per year. For USSR figure, see 10/. Both figures exclude correspondence and postgraduate degrees.

d. US figure from the US Office of Education, 1948-49; for USSR 1951 figure, see 11/.

e. Private expenditures are included in the US total budget and outlay; public expenditures include Federal, state, and local; for USSR expenditures, see 8/.

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III. Graded Schools.

1. Goals.

Quantitatively the goal of the graded school system in the USSR is nation-wide compulsory seven-grade education (normally up to 14 years of age) and expansion of high school enrollment as rapidly as the requirements for youth labor will permit. In substance, the goal is to lay the foundation for political indoctrination and vocational aptitude and to develop the academic knowledge basic to entrance into employment, to further training in vocational high school, or to entrance to a university.

2. Enrollment.

Estimates of population of school age and enrollment by grade in the USSR are given in Table 2.

Table 2

Age and Grade Distribution in Soviet Schools
1950

			Thousands
<u>Age</u>	<u>Population a/</u>	<u>Grade</u>	<u>Enrollment b/</u>
7-10	18,100	1- 4	21,000
11-13	14,300	5- 7	11,000
14-16	12,200	8-10	2,500
		Vocational	1,300
17-22	19,419		1,240

a. School population estimated from 5-year age distribution estimated by CIA.

b. Various Soviet announcements indicate a grade school enrollment in 1950 of about 34.5 million. This was distributed by grades by calculating the survivors from births in the appropriate years, allowing some late enrollment in the first grade at age 8, allowing further for 15-percent retardation in grades 1 to 4. This resulted in an estimate of 21 million in grades 1 to 4. The remaining 13.5 million were divided between grades 5 to 7 and 8 to 10 by assuming that enrollments in grades 5 to 7 in previous years have been substantially increased by the drive to make these grades compulsory. The resulting estimate was generally confirmed by the few scattered actual distributions which were found and by such evidence as the members taking examinations at various levels. For secondary vocational and higher enrollments, see 12/, an announcement that cites the following increases in 1951 over the 1950 figures above: grades 5 to 10, 1.5 million; secondary vocational, 86,000; higher, 100,000.

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In 1950 there were over 44 million youths between the ages of 7 and 17, or about 22 percent of the total population of the USSR.

Of the children 7 to 10 years of age (the ages appropriate^{*} to the first four grades of elementary school), about 98 percent were in school, or about the same proportion as in the US. The fact that 2.9 million more are enrolled in grades 1 to 4 than are in the appropriate ages is accounted for by retardation. There are still pupils in the rural schools who entered at age 8 instead of 7, and it is estimated that from 12 to 15 percent of the elementary children fail to be promoted each year.

Of the children 11 to 13 years of age, about 90 percent are enrolled either in their normal grade or as retarded pupils in the primary grades, as compared with an enrollment of 99 percent of the corresponding ages in the US. Wartime disruption caused exceptional retardation in this group.

Of the youth 14 to 16 years of age (appropriate to the three high school grades), about 30 percent are enrolled in regular high schools, about 20 percent in their normal grade, and 10 percent retarded. Another 8 percent are in secondary vocational schools and a smaller percentage in labor reserve schools. This total of about 40 percent is to be compared with 85 percent of the youth of high school age enrolled in the US. It is at age 14 or upon completion of grammar school that a large proportion of the pupils drop out to enter industry or to enroll in vocational high schools or in labor reserve schools (see 5a, below).

The transition from compulsory four-grade to compulsory seven-grade education is still in process. Effort has been made to enforce compulsory seven-grade attendance in cities for a number of years. The fifth grade was compulsory in 1949, the sixth in 1950, and the seventh in 1951. Although the plans have been only partially fulfilled, a large number of seven-grade schools have been opened, and fifth and sixth grades have been added to some four-grade schools. This has resulted in a recent marked increase of enrollment in grades 5 to 7 which, after a year or two, should result in further expansion in grades 8 to 10, provided the pressure for labor force expansion does not interfere. After three more years this should result in a marked expansion in numbers eligible for university enrollment.

3. Course of Study.

Education in grammar and high school subjects is more condensed in the USSR than in the US. Whereas 12 (sometimes 11) years are normally required from first grade to high school graduation in the US, high school graduation

* Appropriate age is the age at which a child would reach a grade if it entered school at age 7 and were promoted every year.

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in the USSR requires the completion of only 10 grades. Grade 11 is being added to some of the larger schools. Thus the hours required for completion of high school in most of the USSR are 83 percent of the time allotted in most of the US.

The full curriculum of the 10 grades in the largest republic in the USSR -- the RSFSR -- is shown in Table 3.

Table 3

The Curriculum of the Soviet Graded Schools

Subject	Number of Lessons in First 7 Grades per Week	Weekly Hours in Grades			Grand Total (Hours) ^{a/}
		8	9	10	
Russian (Mother Language)	69.0	0	0	0	2,252
Literature	0	4	5	4	424
Arithmetic	34.0	0	0	0	1,112
Algebra and Geometry	12.0	6	6	6	960
Natural Science	12.0	2	2	0	523
History	10.5	4	4	4	732
Constitution of the USSR	2.0	0	0	0	65
Geography	12.5	3(2)	b/ 2(3)	0	370
Physics	5.0	3	3(2)	4	472
Astronomy	0	0	0	1	33
Chemistry	2.5	2	3(2)	4 (3)	343
Foreign Languages ^{c/}	10.5	3(4)	2(3)	3 (4)	653
Sports and Games	15.0	4	4	5	916
Drawing	5.0	0	0	0	165
Technical and Drafting	2.0	1	1	1	165
Singing	4.0	0	0	0	165
Total	196	32	32	32	2,370

a. On the basis of about 32 to 33 weeks.

b. Figures in parentheses indicate the number of lessons in the second semester.

c. German, English, and French.

Several seeming omissions will immediately be noted. Military training is not specifically mentioned. Sports and games are, however, allotted roughly 10 percent of the total class hours. Much of this time is taken up with paramilitary exercises. In addition, the objective of many of the assignments in arithmetic, geography, and history is to promote familiarity with military problems.

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A second omission is the lack of allotment of time for specific instruction in Marxist theory. It has seemingly been determined that young pupils may be sufficiently exposed to the practical aspects of such theory through the constant emphasis in all classes upon the "code of Communist morality," by which process they grow to be practical Communists without direct indoctrination in theory, which is postponed until they are more mature. (See I, above.)

A third seeming omission is the lack of any time specifically set aside for trade training. This is likewise postponed for specialization at later ages. In the early grades, industrial training is considered "polytechnic" in the sense that it is designed to lay the foundation for a broad understanding of the whole industrial process. To this end, much of the instruction in history, geography, mathematics, and science is directly concerned with agricultural and industrial problems. After grade 7, trade training is available in special vocational high schools.

Examination of the courses which are listed in Table 3 shows that about 45 percent of the schedule time is allotted to language, history, geography, civics, and art, where the primary emphasis is on indoctrination, and that about 35 percent is devoted to mathematics and science, where the main objective is laying the foundation for understanding of the environment and the economy. About 10 percent of the time is devoted to sports, games, and activities designed to lay the basis for military training, and about 10 percent is devoted to foreign language.

While this offering may vary slightly from school to school, within each grade every student must take the same classes. No electives are offered.

4. Teachers and Teaching Methods.

The USSR recognizes teaching as the most important qualitative factor in education. Teachers enjoy great prestige and are considered among the most important architects of the new Communist society. They are leaders in the local community and often hold elective positions in government and in the party. The salary scales of teachers are comparable to those of skilled workers. In addition, teachers have the coveted privileges of the intelligentsia, including housing subsidies and the right to reductions in prices at State stores.

Teacher training is at three levels. The standard requirement is that teachers for the four primary grades be trained in technicums, or special teaching schools (see V4b, below), which require completion of the first seven grades for entry and the completion of a 4-year course for graduation. This level of training is somewhat below that of "normal" schools or junior teachers colleges in the US. Teachers in the upper elementary grades have theoretically completed high school, or have graduated from a teaching school and had 3 years' experience

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in teaching, before entering a 2-year course preparatory to teaching several related subjects. This level is equivalent to a degree from a junior teachers college in the US. High school teachers are trained for specialization in one subject, with knowledge of a subsidiary field in educational institutes. These also require high school graduation for entry and offer a 4-year course. All of these types of schools have practice schools attached. 13/

Rapid expansion has made it impossible to staff all schools with teachers whose training was standard. Hence, much emphasis is placed upon on-the-job training. Evening courses, short courses, correspondence courses, and formal teachers associations are all utilized for upgrading qualifications. While such on-the-job training is "voluntary," heads of schools are responsible for seeing that staffs continue training where necessary.

The prescribed teaching methods are formal and authoritarian. After an early Bolshevik period of radical experimentation and complete freedom in education, all "modern" methods were discarded in favor of the system of teacher-centered instruction, with the teacher strictly supervised by administrative authorities.

Discipline is strongly stressed. The "rules for pupils" are detailed and have the authority of law. Discipline by the teacher is reinforced by the "collective" organization of the class and the appointment of monitors. Although corporal punishment is forbidden, punishments up to expulsion from school are advocated. The objective of discipline is the training of a citizen to like to do what he has to do.

Promotions beyond the fourth grade are strictly controlled by examinations. These are centrally planned as to topics to be covered, and the specific questions proposed by the teacher are reviewed by an examining board. These boards consist of the grade or class teacher, two other teachers, the school head, and a representative from the regional or the republic educational authority. 14/

5. Limitations.*

a. Retardation and Drop-outs.

The large numbers of retarded pupils carried in the system (estimated at about 5 million) are a drain on the educational resources and concentrate an excessive proportion of the effort on the lower grades. It has been pointed out that about 12 to 15 percent of the pupils fail to be promoted each year. Pressure is put on teachers to reduce this proportion, one device in some areas being to discredit teachers who fail to promote over 90 percent

* This section is based largely on compilations of complaints in Soviet periodicals and newspapers. For this reason, the facts may be somewhat biased by the Communist habit of "self-criticism." For the most part, however, the shortcomings have a substantial basis of reality.

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of their classes. This, however, may lead to indiscriminate promotion of poor scholars. Basically, retardation is only a symptom of lack of interest on the part of pupils or poor quality of the educational offering. At present there is a temporary excess of retarded pupils because of war interruption of early schooling.

Associated with retardation is elimination, or premature dropping out of pupils, retardation being one of the primary reasons for dropping out. Before 1949, when education up to age 14 was made generally compulsory, the point of heavy elimination was after grade 4, through which compulsory education has been in force for many years. Failure to enter the upper elementary grades was due only in part to retardation. The other principal factor was lack of facilities for pupils in grades 5 to 7. In many areas these upper grades were taught only in widely scattered schools, necessitating boarding or transportation facilities, which were not adequately provided. Also, if a pupil was headed for agriculture or industry rather than completion of formal high school education, the incentive for completing the upper elementary grades was not so great. After grade 7, when education is no longer compulsory and when tuition is charged, the sharpest drop in graded school enrollment now occurs, partially to enter employment and partially to enroll in vocational high schools (technicums) (see V4a, below) and labor reserve schools, which are open to pupils who have completed grade 7. The net result is that only a small but increasing proportion of those who enter the first grade survive through the tenth. An additional number receive the equivalent of a 10-grade education in special schools. The transition to universal seven-grade compulsory education is resulting in a considerable increase in the number attending and completing high school. After 1952, high school enrollment should be further expanded by the increase in births in 1938-41 and the completion of the seventh grade by pupils whose elementary schooling was interrupted by the war.

b. Shortage of Teachers.

The most important determinant of educational quality is the teacher. Soviet schools have never had enough teachers to handle the rapid expansion of enrollment. Progress made up to World War II was partially nullified by war losses due both to deaths and to inability to enter training institutions. Since 1949 the effort to expand grades 5 to 7 has precipitated another shortage. Even with considerable expansion in the teacher-training facilities, stopgap measures have been necessary. Correspondence courses have increased. One year of teacher training has been added to some high schools, and the better primary teachers are promoted to teach in the upper grades. There is little doubt that much of the excessive retardation and elimination of pupils is traceable to the poor preparation of many teachers.

Teacher-training has now expanded until the supply of trained teachers below grade 7 should soon be adequate.

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c. Buildings and Supplies.

Wholesale destruction of buildings in the devastated areas and conversion of school buildings to other purposes have created an acute shortage of classroom space. Schools in the more populous areas operate in two and three shifts, and one-shift schools are overcrowded. The construction of schools along with other nonindustrial construction has been delayed because of the priorities of industry. Frequent complaints in the local press also indicate that some local authorities fail to provide the proper equipment for buildings and that heating is often deficient in rural areas.

d. Books.

Textbooks are produced centrally and distributed for sale in local stores. The system is cumbersome and sometimes results in long delays or in the delivery of inadequate supplies.

6. Attainment of Goals.

Quantitatively, it is probable that the goal of universal seven-grade compulsory education will be reached within a few years, at which time the enrollment of pupils in the age group appropriate to these grades will approximate the proportion of children of elementary school age enrolled in the US. Unless, however, tuition charges are removed above the seventh grade and unless the pressure for youth to enter industry or industrial training is relaxed, regular high school enrollment will continue to lag, but enrollment in "technicums," or vocational high schools (see V4a, below), may well expand. A loyal and reliable teaching force has been recruited to the size where the number of pupils per teacher compares favorably with the ratio in the US. Rapid expansion has, however, sacrificed quality to quantity. This handicap could be overcome in a few years. The course of study, although narrow from the US point of view, is adapted to the goals of indoctrination and instillation of basic material facts. The principal remaining handicaps are shortages of buildings, equipment, and supplies, and these cannot be rapidly made up as long as the needs of heavy industry are paramount.

IV. Special Types of Elementary and Secondary Schools.

1. Kindergartens and Day Nurseries.

Preschool education is given in kindergartens of the standard type. Although 2.5 million "places in kindergartens" are claimed, it is probable that the enrollment at any date does not exceed 1.5 to 2 million. In addition, pre-school care is given to children of working mothers in day nurseries which are administered by the industrial establishments.

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2. Military Schools.

Suvorov schools for the children of Army officers and Nakhimov schools for the children of Navy officers provide elementary and secondary education, with special allotment of time to military training. These schools require 10 years for completion and prepare for entrance to officers training schools. The pupils enrolled in these schools, are, however, only a small fraction of the total. The armed services also have a system of schools for noncommissioned officers similar to those in the US.

3. Schools for Retarded Pupils.

As in the US system, the larger city systems provide special classes for the instruction of mentally retarded pupils and for pupils especially gifted in various lines.

4. "Popular" Education.

The formal education system is paralleled with a network of study groups, cultural clubs, and night schools. Special emphasis is placed by industries and collective farms on facilities for pupils who have dropped out of formal schools to complete their secondary education at night. These students are supposed to be encouraged in every way and to be exempt from overtime work. In the year 1948-49 about 750,000 pupils were enrolled in such night schools for rural youth and for working youth.

V. Vocational Education.

1. Goals.

The objective of the trade-technical schools is the training of politically conscious workers with a sound knowledge of production. 15/ Thus the objectives of discipline and political indoctrination apparent in the grade schools are carried over into the vocational system.

The success of the ambitious plans for rapid industrialization is to a large degree dependent upon the discipline and productivity of labor. These had to be cultivated in a population the majority of whom had no familiarity with modern industrial techniques and who were recruited from farms and from the maturing inexperienced youth in cities. The finely graduated system of rewards and punishments designed to discipline labor was cumbersome to administer and not entirely successful. The school, therefore, was expected to make its contribution by cultivating such discipline, loyalty to the system, and "proper attitude toward work" as to obviate the need for excessive compulsion.

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2. The System.

Soviet industrial training operates at a number of levels for a variety of types of workers:

For the mass of workers in the lower categories, an elaborate system of on-the-job training is provided. Entry in such training is not limited by any educational requirements.

Upon completion of the fourth grade, candidates for somewhat more desirable jobs may train in a 6 months' labor reserve factory training school.

The 2-year labor reserve schools prepare for the middle ranks of semiskilled labor and for some skilled jobs.

Completion of the seventh grade entitles the candidate to enter a vocational high school (technicum) (see V4a, below) to train for the grade of specialist.

High school graduation opens the way for engineering or professional training in a university or an institute.

Thus youth of any level of formal schooling may find training facilities for entering industry at the level for which he is theoretically fitted, and, conversely, training is provided for every level of skill.

As long as the overwhelming majority of pupils in the USSR did not progress beyond the fourth grade; entry into industry was largely through on-the-job training and labor reserve schools. Successful extension of compulsory seven-grade education will, however, immediately make it possible to expand the enrollments in all types of high schools and within 3 years should permit more rapid expansion in enrollments in higher education institutions.

3. Labor Reserve Schools.

a. Goals.

The primary objective of the labor reserve schools is to assure a sufficient supply of labor with medium skill. This is accomplished by giving the Ministry of Labor Reserves power to recruit, train, and allocate youth. It is a system for transferring manpower from farm to city and from areas of ample labor supply to shortage areas.

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b. Times and Recruitment.

The Decree of 1940 provided that each 100 adults on farms should "nominate" two youths for the labor reserve and that urban Soviets should be assigned quotas. From 60 to 70 percent have come from farms, and the large majority of the total has been youth who had dropped out of graded schools or did poorly in their regular academic work.

Three principal types of schools were provided: 2-year trade schools training metal workers, miners, chemists, and petroleum and communications workers; 2-year transportation schools for locomotive engineers and firemen, repair men, and other skilled railway workers; 6-month factory training schools for workers in construction and mass industries and for higher skilled miners and petroleum workers. In addition to these main types, the Ministry also operates some technicums (see V4a, below) and 7-year schools leading to engineering positions.

The ages for induction, as amended in 1947, are for the factory schools, boys 16 to 19 and girls 16 to 18, and for the 2-year schools, boys 14 to 17 and girls 15 to 16.

Having been accepted as a volunteer or drafted, the youth is assigned to a school in an area of labor shortage to train for an industry that has a labor priority. While in training he is fed, clothed, and housed at government expense. The 6-month schools offer little academic training, but the 2-year schools include some theoretical training in fields allied to the occupation for which training is given. In all cases, trade instruction is given under conditions closely simulating actual production. Upon completion of the course, the graduate must spend 4 years in an assigned job, during which time he is exempt from military duty. The 6-month graduates are given assignments somewhat above the level of the lowest paid workers, and the 2-year graduates enter industry at about the middle of the range of skills (fourth or fifth worker category). Before graduation the pupil is required to demonstrate skill commensurate with workers in those categories. Some special schools train for even higher skills, but in these cases the prerequisite educational requirements are higher.

c. Enrollment.

It was planned from 1945 through 1950 to train 4.5 million workers in the labor reserve. Official announcements, however, indicate that there were less than 3.5 million graduates. Graduations increased rapidly up to a peak of 1 million in 1948 and then dropped to 723,000 in 1949 and 494,000 in 1950 (with a further decrease to below 400,000 in 1951). 16/ It is not clear whether this drop was due to a failure of the system to work or whether less emphasis was deliberately placed on this type of expensive training because the same ends could be attained more easily by training on the job for the

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lower skills and training in vocational high schools for the higher skills. The expansion in these latter types in 1949 and 1950 was more than double the drop in the intake from labor reserves.

Further marked contraction in the labor reserve program, without the adoption of other compulsory programs, would be highly significant as an indication that the supply of workers of this type was sufficient to be maintained by the normal inducements and that mass coercion was no longer necessary to channel labor from farm to city and to the newer industrial areas.

Since labor reserve training is designed to meet the varying needs of industry, the number of youth trained for specific occupations varies accordingly from year to year.

d. Handicaps.

As would be expected in a mass operation put into effect speedily, mistakes have been made. In the early years, food and quarters provided for the students were inferior, and this was undoubtedly a basic cause of the frequent desertions from the reserves. There are indications that serious efforts have been made to remedy these defects. Norms have been set, and administration has been strengthened. The same type of criticism has been voiced with respect to the qualifications of teachers and selection of teaching methods. Other complaints have been that training facilities were not organized promptly enough to accommodate reporting recruits and that industries for which workers were trained have failed to use their skills properly. All these handicaps seem to be growing pains which will tend to disappear with experience and improved administration.

There is the additional consideration that since this type of education includes free living expenses and transportation, it is relatively expensive, averaging about 8,000 rubles per pupil per year. An estimated 1,000 rubles of this is, however, offset by the value of goods produced during training.

e. Attainment of Goals.

The failure to attain the output of 4.5 million workers announced at the beginning of the last Five Year Plan (1946-50) has been commented on. In spite of this and of the handicaps enumerated above, it can be said that in the light of pressing needs of industry during the war and early postwar periods, the labor reserve system was probably as effective as any device which could have been adopted to fill these needs from a poorly trained labor force. Direct evidence as to the quality of graduates is lacking. However, the fact that in 1945, after 5 years of experience with the system, it was decided to recruit about half the new workers to be drawn into industry from 1945 to 1950 from the labor reserve, is a clear indication that it was

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considered satisfactory up to that time. The fact that after 1948 the planned expansion did not take place may indicate either failure to meet the plan or change of the plan because of preference for the less expensive training on the job and in technicums. It is significant that this shrinkage of labor reserves coincided with the desire to implement universal compulsory seven-grade education which would prepare more pupils for entry into technicums or high schools, and which, in the case of retarded pupils, would be in conflict with recruiting of 14-year old youth for the labor reserve.

4. Vocational High Schools.

a. Goals and Requirements.

Vocational high schools, or technicums, are designed for training "middle grade specialists" or junior technicians in agriculture, industry, administration, law, and medicine. Pupils who have completed the seventh grade are eligible to enter either technicums or formal high schools. Those who wish to secure junior professional jobs within 3 or 4 years enter technicums, while those who wish to train for from 7 to 9 years longer for the top professional jobs go through regular high school and higher education courses. Vocational aptitude and ability to master academic subjects also influence the choice. The number who choose technicums in each field is limited by the enrollment planned to meet the needs of specific occupations. The choice, however, is not irrevocable, since the 5 percent of the technicum graduates with the highest grades may be admitted to universities immediately and others may enter universities after 4 years of work experience.

b. Enrollment.

Technicum enrollment expanded steadily from about 900,000 in 1945-46 to about 1,400,000 in 1951-52, ^{17/} as compared with an enrollment of 1,800,000 in full-time vocational high schools and 190,000 in normal schools and teachers colleges in the US. ^{18/} Since the less apt students have been drastically culled before reaching the seventh grade, failures in the vocational high schools are not excessive and probably 80 percent of those who enter graduate. The technicum enrollment include an unknown percentage who are taking correspondence courses.

About 40 percent are training for industry, transportation, and communications; about 20 percent for teaching; about 20 percent for medicine; 10 percent for agriculture; and 10 percent for miscellaneous administrative jobs.*

* Although these figures are old, ^{19/} it is believed that the ratios have not changed significantly except possibly for a recent increase in teachers.

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c. Teachers.

Teachers in technicums must be specialists in their field and graduates of a higher education institution.

d. Course of Study.

From 3 to 4 years, and occasionally 5, are required for graduation. During this time the academic work covers the same general subjects as the course in the regular 3-year high school, in addition to practical training in a vocation. The academic training places special emphasis on subjects basic to the vocation. For instance, nursing students emphasize physiology and chemistry, and engineering students emphasize physics and mathematics, with similar variations for other specialties.

In the first 2 years, practical work is given in laboratories and work shops in the school. In the third year, practical work is undertaken under working conditions in the hospital, factory, or school.

e. Attainment of Goals.

Technicums have trained junior specialists for a wide range of industries and also furnish a large proportion of similar personnel for farms, teaching, and medicine. They continue to turn out technicians at a present rate of about 320,000 per year. This type of training is steadily expanding, and adverse criticism in the Soviet press is rare, indicating that the authorities are well satisfied with the results of this program. From 1946 to 1951, technicums were to supply over 1,300,000 specialists to the entire labor force. On the basis of enrollments averaging 1.1 million a year, it is probable that this goal has been fully achieved. On the basis of an estimated distribution of graduates, this would mean over 600,000 specialists for industry, nearly 300,000 new teachers, about 125,000 health workers, and 300,000 specialists for collective farms and miscellaneous administrative jobs. 20/ The fulfillment of the announced plan does not mean that Soviet industry is now sufficiently supplied with this type of skilled workers. There will always be a need for a considerable graduation to replace deaths and retirement in addition to workers necessary to expand industry.

VI. Higher Education.

1. Goals.

Higher education in the USSR is planned to supply the intelligentsia, teachers, doctors, engineers, and administrators for the nation. As this is a particularly pressing and well-recognized need, special effort has been made to develop higher education and scientific research.

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2. Types of Institutions.

Higher education is available in three types of institutions: universities, polytechnic institutes, and specialized institutes. In addition to these types of institutions, some of the graduate students of the universities are admitted to the research facilities of the Academy of Sciences. Some universities, likewise, have laboratory facilities for advanced students.

3. Departments.

The departments usually found in universities are physics and mathematics, chemistry, biology, geography, geology, medicine, history, philology, and law. Some of the larger institutions add other departments such as economics, journalism, international relations, and philosophy.

The principal types of specialized institutes are teacher training, medical, political, electrotechnical and mechanical engineering, metallurgy, transportation, civil aircraft, chemistry, coal mining, petroleum, geology, metal mining, heavy industry, food, forestry, cinema, agronomy, veterinary, and journalism.

4. Enrollment and Graduates.

Announced enrollment in higher education was over 1,200,000 for 1950-51 and over 1,300,000 in 1951-52, of whom from 350,000 to 400,000 were correspondence students. Recent trends in number of students, graduates, and institutions are shown in Table 4.

Table 4

Higher Education in the USSR a/
1945-51

				Thousands
<u>Year</u>	<u>Institutions</u>	<u>Regular Students</u>	<u>Correspondence Students</u>	<u>Resident Students Graduating</u>
1945-46	789	561	N.A.	70
1946-47	797	632	N.A.	91
1947-48	806	670	N.A.	122
1948-49	834	730	N.A.	143
1949-50	845	750	300	148
1950-51	864	850	350	148

a. For numbers of institutions and regular students, 1945-49, see 21/; for 1949 and 1950, see 22/. Resident graduates, excluding higher degrees and correspondence students, are estimated.

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The elimination of poorer pupils has been so drastic in the lower schools that only a small percentage of the best pupils enter higher institutions. For this reason, the elimination is not so great between entrance and graduation. About 80 percent of entrants eventually graduate.

Table 4 shows a steady increase in number of institutions and enrollments. The regular graduates from 1945 through 1950 totaled 574,000. In addition, it is estimated that there were 78,000 correspondence graduates, making a total of 652,000, or more than the goal announced at the beginning of the Five Year Plan. ^{23/} On the basis of the present enrollments, it would appear that from 1951 through 1956 about 850,000 more regular students will graduate, with an additional 100,000 from correspondence courses. Women constitute about 50 percent of the graduates.

Only about 10 percent of the graduates are from universities. These are the future teachers in higher institutions and high schools, scientists, and top administrators. Graduate work is confined to the universities, and only a small but growing number of graduate students are enrolled.

In 1951 the institutes graduated 133,000 resident students, distributed about as follows: education, 62,000; engineering, 30,000; health, 20,000; agriculture, 13,000; economics and law, 8,000. ^{24/} This distribution reflects the pressing need for teachers in the expanding schools and for engineers for the national economy.

Graduates of higher institutions are required to spend 2 years in an assigned job.

5. Course of Study.

Completion of the tenth grade, graduation in the top 5 percent from a technical, or a successful examination is required for entrance in higher institutions. So great is the prestige of the intelligentsia in the USSR that there is lively competition for the places. An estimated two-thirds of the high school graduates enter higher institutions.

Tuition of 400 rubles per year is charged, but superior students receive stipends ranging from 100 rubles per month to full maintenance. ^{25/} Diploma courses require a varying number of years of study, at the end of which a diploma but no degree is issued.

Courses required of all students in all institutions are the foundations of Marxism-Leninism, political economy, dialectical and historical materialism, and a foreign language. Military training is no longer compulsory for women but is required of men in the form of physical training and preinduction training. All students are also required to spend a varying length of time in practical application of their specialty -- in the community,

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in the practice school, or in industry. The rest of the time is spent on the subjects related to the field of specialization. Thus the holders of diplomas correspond in general to holders of the bachelor's degree in the US except that they have had more of the Communist brand of social science and have covered a somewhat narrower, but more functional, range of courses.

Progress is regularly checked by examinations which have the double purpose of grading attainment and determining the amount of scholarship stipend. Standards in the universities are high. Universities have the best equipment and the choice of professors. Some of the better organized institutes approximate the universities in this respect, but the quality of teaching in some of the institutes does not measure up to university standards and the concentration on a narrow field of vocational training limits the knowledge of graduates.

6. Graduate Work.

Graduate work is not so highly developed in the USSR as in Western universities. It is, however, undergoing substantial expansion in line with the strenuous efforts of the authorities to develop scientific and technical manpower. Two graduate degrees are given -- Candidate, which requires 2 years of postgraduate study, plus the time necessary to complete a thesis, and Doctor, which requires an additional time, dependent on the ability of the student.

In volume an estimated 4 percent of all degrees given in 1951 were graduate degrees (about 6,600) as compared with 13 percent of all degrees in the US. 26/ The ratio of Candidate degrees to Doctor's is about 10 to 1, roughly the same as the ratio of Master's degrees to Doctor's in the US.

The method of conducting graduate study does not differ essentially from the methods of the West, consisting of systematic study under the supervision of a professor and the preparation and defense of a thesis.

7. Scientific Research.*

Scientific research in the universities is carried on in conformity with an over-all plan for research in the USSR. Since Communist dogma demands that science serve the people, the central planning agencies orient the whole program to the military-industrial needs of the economy. The broad objectives and fields of emphasis are determined by the Gosplan (State Planning Committee) with the advice of the Academy of Sciences and the universities, along with other research agencies, formulate their specific plans within this framework.

* The objective of this section is not to present a thorough appraisal of scientific research but to trace its relationship to higher educational institutions.

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The most important position in the scientific hierarchy is occupied by the Academy of Sciences, which plays a key role in planning and also operates some 60 facilities of its own and exercises leadership in the 14 Union Republic academies, the universities, and the industrial research institutes. For over 200 years the Academy has symbolized the best in science in Russia and has commanded the services of the top scientists, who receive high salaries and great prestige.

The Academy of Sciences is also related to the universities in the following respects: university professors may also work in the facilities of the Academy, the Academy may contract with universities to carry out projects, and a considerable number of graduate students do their work in the laboratories of the academy.

Staff and laboratory facilities of the Academy of Sciences and the universities vary considerably in adequacy. Although they are assigned the best personnel and equipment, shortages hamper operations in some places. For the most part, however, staffing is excellent in the more important laboratories.

Some of the working conditions which militate against a high quality of scientific output are as follows:

Scientists must make their findings conform or seem to conform to the science of sciences -- Marxism-Leninism. In this respect they are under the constant scrutiny of the Party, the police, and their colleagues.

Strict security regulations are imposed on projects relating to the national security, and these tend to make access to previous work and collaboration with their workers difficult.

Shortage of personnel leads to overloading of some of the most competent workers.

There is a strong pressure to complete plans and meet deadlines. This pressure, coupled with the shortage of personnel, leads to reluctance to undertake difficult assignments or to undue haste.

The concentration on narrow production problems limits the opportunity for pure research. On the other hand, the high degree of specialization in science and the emphasis on the practical applications tends to train persons well versed in their specialty.

8. Attainment of Goals.

The criteria for judging the adequacy of output of the institutions of higher education in the USSR are to be found in the situation and characteristics of the Soviet economy.

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Pressure to increase members of scientific and technical personnel has been great not only because of the rapid expansion of the industrial labor force but also because at the end of World War II there was a shortage of high-quality workers, which was due to war losses and to deficiencies in training in the earlier years. The recent expansion of scientific and technical personnel has been much faster than the expansion in the total industrial labor force. In 1950, technicians and specialists with a higher or middle education in the national economy were 80 percent more numerous than in 1940, but workers and employees increased only 24 percent in that period. ²⁷ Thus there was considerable leeway for more efficient staffing of an expanding economy.

The characteristics of Soviet production which determine the numbers and types of engineering and management personnel required are markedly different from the industrial practices in the US. Enumeration of the following principal differences will point up the futility of attempting to compare this category in the two countries:

Production in the USSR is less varied and more concentrated in the critical sectors of the economy, so that fewer skills are needed.

The items produced by fabrication are in general not so elaborately designed and require less input of engineering technique and less high-level plant organization.

The rigid manpower controls make it possible to shift critical personnel (within their sphere of competence) to positions of key importance.

All of these characteristics of the economy enable the USSR to produce successfully with a smaller number of engineers and scientists and with a narrower range of skills.

The higher education system has been criticized on the ground that the training of many of the engineers has been comparatively narrow, making for difficulty in utilization outside of the particular field. Satisfactory evidence is not available to appraise this point except for the fact that the course of study in the specialized institutes is limited to the subjects which have rather direct bearing on the specialty.

With respect to scientists, the same criticism is made, but in this field the causes of such inflexibility as may exist are probably to be found in the rigid regimentation of the research program by the plans of the Academy of Sciences and the strict security provisions which make the interchange of information among scientists difficult.

Both of the weaknesses mentioned arise in part from the small proportion of scientists and engineers with graduate training.

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Some evidence as to the qualitative adequacy of top-level personnel can be found by tests of the quality of their products. It is generally agreed that the well-trained and experienced workers engaged in original research are fully competent. There is disagreement as to the adequacy of the workers with the production skill necessary to translate research into plant processes. This is in part based on the Soviet practice of importing such products as ball bearings, rubber, and certain machine tools rather than building up domestic production. As long as imports are available, however, this could be based on convenience rather than necessity.

Evidence is not available to determine the extent to which present production practices are attributable to the use of expert German personnel. Dependence on this assistance is, however, lessening, as many Germans are being repatriated.

On the other hand, analysis of the workmanship in a wide range of Soviet products leads to the conclusion that at least in the critical industries the volume and quality of scientific and technical personnel are adequate for the operation of the Soviet economy at present levels.

VII. Political Education.

Communist indoctrination in the USSR permeates all levels of education and does not cease upon graduation from school. Political education is elaborately organized for various levels of the population. The system is designed both to increase the political consciousness of the general public and to give practical training to officials of the Party, government, and labor organizations. While exact figures as to enrollments are not available, it is clear from the Soviet press that a high percentage of members of the Party, the Komsomol (All-Union Lenin Communist Union of Youth), and the armed forces receive or have received such instructions. In recent years, special effort has been made to enroll non-Party members.

Laxity of political indoctrination during World War II and rapid expansion of the Party caused growing concern for the intensification of political training. This task was assigned to the Agitation and Propaganda Section of the Central Committee of the All-Union Communist Party, which has organized a complex system of study groups and schools, trained a staff of full-time and part-time "propagandists" and "consultants," prepared instruction materials and lecture courses, and constantly supervised the operation of the system.

Indoctrination of the general public is organized in general education schools, political schools, circles, and self-instruction conducted under the guidance of a consultant.

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In the armed forces, schools are maintained at the divisional level, and 2-year courses are given.

More formal on-the-job training is given in two levels of night schools: Evening Party Schools and Night Universities of Marxism-Leninism. Both give 2-year courses meeting 4 hours a week. The chief difference is that the Night Universities require completion of the tenth grade for entrance and offer somewhat more advanced courses.

Full-time instruction is available to more important officials who have had a complete secondary school education in 2-year Party schools. They follow a course of study which includes history, foreign policy, the Russian language, political economy, and dialectic and historical materialism. Passing students are awarded a diploma.

The Higher Party School (including the correspondence division) is also open to persons who have had a full secondary education and who have proved themselves to be reliable Communists. This course lasts 3 years.

Graduate degrees of Doctor and Candidate of Science are offered by the Academy of Social Sciences. Entrance requires graduation from an institution of higher education and 5 years' good standing as a Party member. Instruction is on the level of other graduate degrees. The top-flight officials and theoreticians are trained by the Academy of Social Sciences, which has also sponsored courses for teacher training.

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APPENDIX A

METHODOLOGY

For the most part a synthesis of facts from numerous sources has been made to produce a coherent picture of the operation and product of the Soviet educational system. No complicated statistical techniques were necessary. Most current figures apply to 1950-51. A few preliminary 1951-52 figures are cited. In some cases it was necessary to appraise the published figures in order to clarify their coverage. This was usually done by comparing current announcements with those of previous years.

Estimates of school age population are CIA estimates.

Estimates of educational expenditures were made from the USSR budget announcement. It was necessary to segregate expenditure for construction and operation of schools from political and propaganda items in order to obtain comparability with US figures. This was done by assuming that the expenditure for these items in the whole USSR was proportionate to those announced for the RSFSR.

Estimates of enrollment by grade in the grade schools were constructed from scattered data covering such items as numbers taking examinations (above the fourth grade), numbers entering high school, and numbers taking examinations for high school graduation. These estimates were generally confirmed by the few local enrollment distribution which were found.

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APPENDIX B

SOURCES AND EVALUATION OF SOURCES

1. Evaluation of Sources.

Figures as to enrollments in various types of schools are from Soviet announcements and are considered to be accurate within 1 to 2 percent. Usually plan fulfillment was used rather than plan projection. Sometimes the two were compared to appraise the extent of plan fulfillment. Figures are believed to represent the total enrollment during the year rather than the average at any one time during the year.

Statements of educational philosophy and general goals are from decrees and officially approved publications of policy; for example, the description of "Communist morality" is from G. S. Counts' summary of the Soviet official pedagogy and has the effect of law in matters of method of teaching and content of courses.

Descriptions of organization are available in a number of sources which are consistent. Statements as to courses of study are likewise consistent in a number of sources.

Analysis of handicaps is based largely on statements in the Soviet press. It is believed that these have a substantial basis of fact, but it is sometimes difficult to determine when a condition is local and when it is general or when it is the result of political animus against an educational official.

Appraisal of attainment of goals is of two types: quantitative (such as size of enrollments and graduation) and qualitative (effort to appraise the value of the educational product). Quantitative measurement is simply a comparison of results with announced objectives. Qualitative appraisal is based upon slim evidence and in some instances is approached indirectly by attempting to determine the effectiveness of graduates.

2. Sources.

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3. G. S. Counts, I Want to Be Like Stalin, 1947.
4. F. Lorimer, The Population of the Soviet Union, Geneva, 1946, p. 79.

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5. School population 7 to 17 years of age for 1926 estimated from F. Lorimer, op. cit.; for 1950, see Table 2, p. 8, below.
6. US school population 6 to 17 years of age from the US Bureau of the Census Series, 1951, p. 20, No. 37; for the USSR school population, see Table 2, p. 8, below. Resources are measured by the gross national product for 1951 (US GNP is used minus business taxes; Soviet GNP is from State, OIR).
7. N. N. Rovinskiy, Gosudarstvennyy Budzhet, 1949.
8. FBIS, 16 Jan. 1950.
9. US Bureau of the Census Series, 1951, p. 20, No. 37.
10. CIA/SI 33-51.
11. Statement of Central Statistical Administration, FBIS, 29 Jan 1952.
12. Results of 1951 State Plan, FBIS, 29 Jan 1952.
13. B. King, Russia Goes to School, 1948, pp. 100-106.
14. Ibid., pp. 30-43.
15. Pravda, 10 Apr 1950.
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17. FBIS, 29 Jan 1952.
18. Biennial Survey of Education, 1946-48, US Office of Education, 1950, p. 48.
19. B. King, Russia Goes to School, p. 78.
20. FBIS, 29 May 1951.
21. NIS 26, Chap. IV, Sec. 43.
22. CIA/SI 33-51.
23. Announcement of 1950 Plan Fulfillment, FBIS, 18 Apr 1951.

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24. CIA/SI 33-51.
25. NIS 26, Chap. IV, Sec. 43.
26. USSR figures estimated from A. Ya. Ginietskiy, Professor-Teaching Cadres in the Higher Schools, 1950; US figures from the US Office of Education.
27. Increase in graduates from FHS, 18 May 1951; increase in workers from FHS, 18 Apr 1951.

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